Damage Assessment of Unauthorized Excavations near Fort Hoke by Bell Atlantic - Virginia, Inc Fort Harrison Unit Richmond National Battlefield Park

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SUMMARY

On August 14, an instance of excavation without a permit as required by the Archeological Resources Protection Act of 1979 as amended (ARPA) occurred along Battlefield Park Road in the vicinity of Fort Hoke within the Fort Harrison Unit of Richmond National Battlefield (RICH). The unauthorized excavation was conducted by a contractor to Bell Atlantic - Virginia, Inc. in the process of installing a telephone line in violation of the existing right-of-way agreement. A continuous trench measuring 212.1 feet long by an average of 0.5 feet deep by 0.6 feet wide disturbing a total volume of 63.6 cubic feet. The following values were determined as a result of this unauthorized activity:

Repair and Restoration	$2404.43
Commercial Value of Artifacts	$ 1.00
Archeological Value	$13,329.04

The felony threshold for ARPA violation is monetary damage in excess of five hundred (500) dollars. The monetary amount is determined by combining (1) the cost of repair and restoration and the commercial value of the resource or (2) the cost of restoration and repair and the archeological value of the resource. In example (1) this amount is $2405.43 and in example (2) the amount is $15733.47. In both instances, the felony threshold is substantially exceeded.

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1 Introduction

On August 14, 2000 I was contacted by Richmond National Battlefield Park (RICH) Ranger Tim Mauch who indicated that contractors to Bell Atlantic - Virginia, Inc. had installed a new telephone line along Battlefield Park Road in the vicinity of Fort Hoke in violation of the existing right-of-way agreement and possibly in violation of the Archeological Resources Protection Act of 1979 (ARPA). Referencing the ARPA permit files, located in my office at the Philadelphia Support Office, I determined that no permit for excavation required by Section 4 of the Act had been requested or approved for the excavations and that the excavations were unauthorized.

Richmond National Battlefield Park was established by Congress A...set apart as a public park for the benefit and inspiration of the people...@ including the A...lands, structures, and other property...@ (16 U.S.C. sec 423J). The entire park is listed on the National Register of Historic Places which identifies the most significant historic properties in the nation. The unauthorized excavations had damaged a section of the park within the boundary and I concluded that they had the potential to damage resources of archeological interest that were in excess of one hundred years old, and should be investigated for damage pursuant to ARPA.

On September 4, 2000 I traveled to RICH. Accompanied by Park Ranger Barry Kreig I proceeded to the site of the unauthorized excavation. The unauthorized excavations were conducted approximately six feet north of Battlefield Park Road approximately one hundred feet east of Fort Hoke. The unauthorized excavation was clearly within the park boundary as evidenced by park boundary signs and a park benchmark.

Upon arrival at the site, I observed the signature of continuous trench of very recent origin, evidenced by disturbed and mixed soils along the entire route. Examination of the unauthorized excavations indicated their potential to damage resources of archeological interest, requiring an evaluation of their impact. I conducted these investigations the following day (September 5, 2000) with the assistance of Ms. Maggie Tyler of Sweet Briar College between 1:00 and 5:00 PM the following day, returening to my residence in Phoenixville, Pennsylvania by car that evening, arriving at 10:00 PM.

Figure 1: Location of unauthorized excavation. Detail from U.S.G.S. Drewreys Bluff Quaadrangle 7.5 minute series (topographic) 1:24000 1969 revised 1994 and Dutch Gap Quadrangle 7.5 minute series (topographic) 1969 photorevised 1994.

2 Area of Damage

The area of damage is approximately one hundred yards east of Fort Hoke within the Fort Harrison Unit and immediately to the south of the park boundary and approximately eight feet north of Battlefield Park Road (Figures 2 and 3). The area is maintained in short grass turf. The route of the unauthorized excavation was clearly visible, evidenced by disturbed soils on the surface of the ground.

Soils in the area of the unauthorized excavation are composed of alluvial Angie loam, 0 to 2 percent slopes. In a representative profile, the surface is pale brown loam about 8 inches thick. The subsoil is about 64 inches thick. The upper 7 inches is yellowish brown clay loam. The next 57 inches is light silty clay that ranges from light yellowish brown and yellowish brown to strong brown in the upper part and light grey in the lower part. Gray and yellowish-red mottles are at a depth of 24 inches. The substratum extends from a depth of 72 inches to 88 inches or more and is grey silty clay that has yellowish-brown mottles (Clay 1975:9).

Historically, the area of damage became an important point for the Confederate control of the eastern approaches to Richmond. To that end, beginning in 1862 and continuing to the last days of the Civil War in 1865, both Union and Confederate earthworks, batteries, and forts were constructed across from Chaffin's Bluff to the Osborne Turnpike, Varina Road, and Mill Road (Figure 4). While the present Fort Hoke is a reconstruction built by the Civilian Conservation Corps in 1934 (because the original was outside the park boundary), it is located on land within (and later between) the Confederate "Outer Line" and "Intermediate Line" of defenses. This land was open and may have been used for encampments of the soldiers and slaves who constructed the system of fortifications, and later for the garrisons to man Batteries 1 through 5 of the "Outer Line" (Dickinson 1989: 26) housing between 430 and 2000men in 1862 alone.

In 1863 the "Intermediate Line" was constructed which linked three new batteries (Fort Hoke, the White Battery and Battery X) to the southwest corner of Fort Harrison. The intermediate line was pivotal in resisting the Union Attack of September 29, 1864 (the Battle of Chaffin's Farm) which succeeded in capturing Fort Harrison and Battery X (Dickinson 1989: 74). As a result of the Federal successes, a new line of fortifications were constructed over the evening of September 29 linking Fort Johnson to the north and Fort Hoke to the south, isolating Fort Harrision and preventing additional Federal advance (Figure 5). No substantial changes were made to the line until the end of the War.

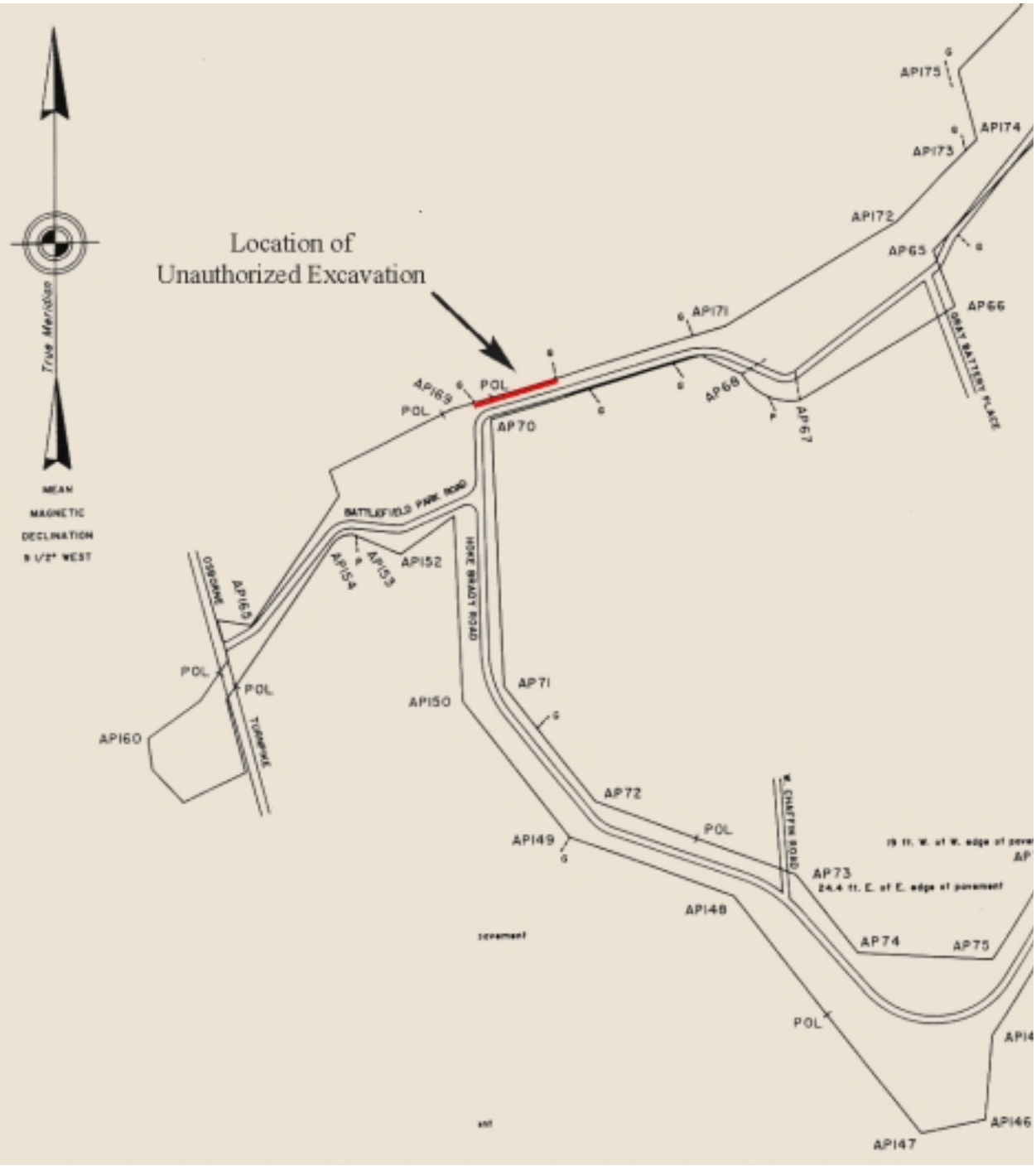

Figure 2: Location of unauthorized excavation in relation to park boundary.

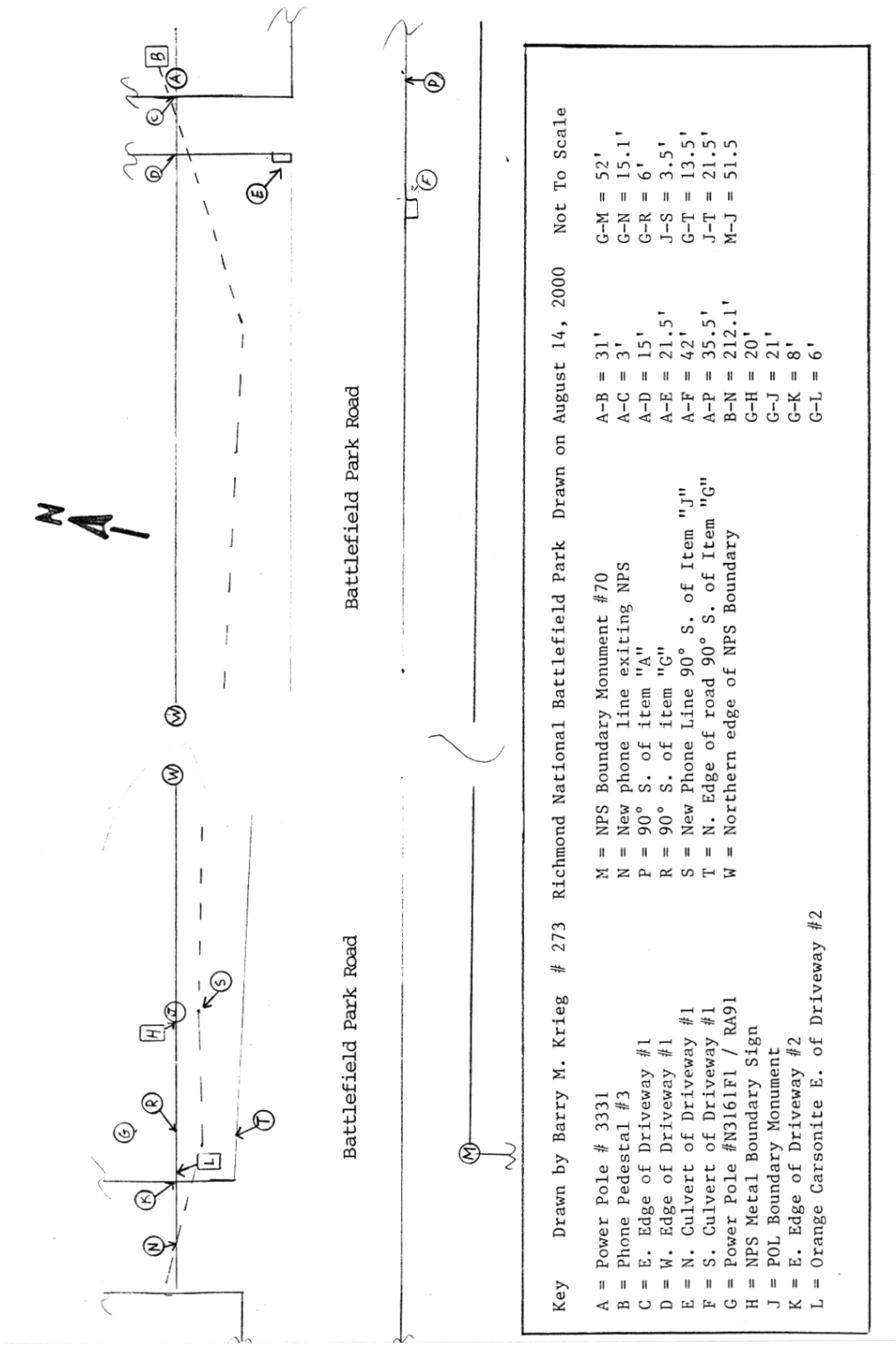

Figure 3: Measured drawing of unauthorized excavation, Fort Hoke area.

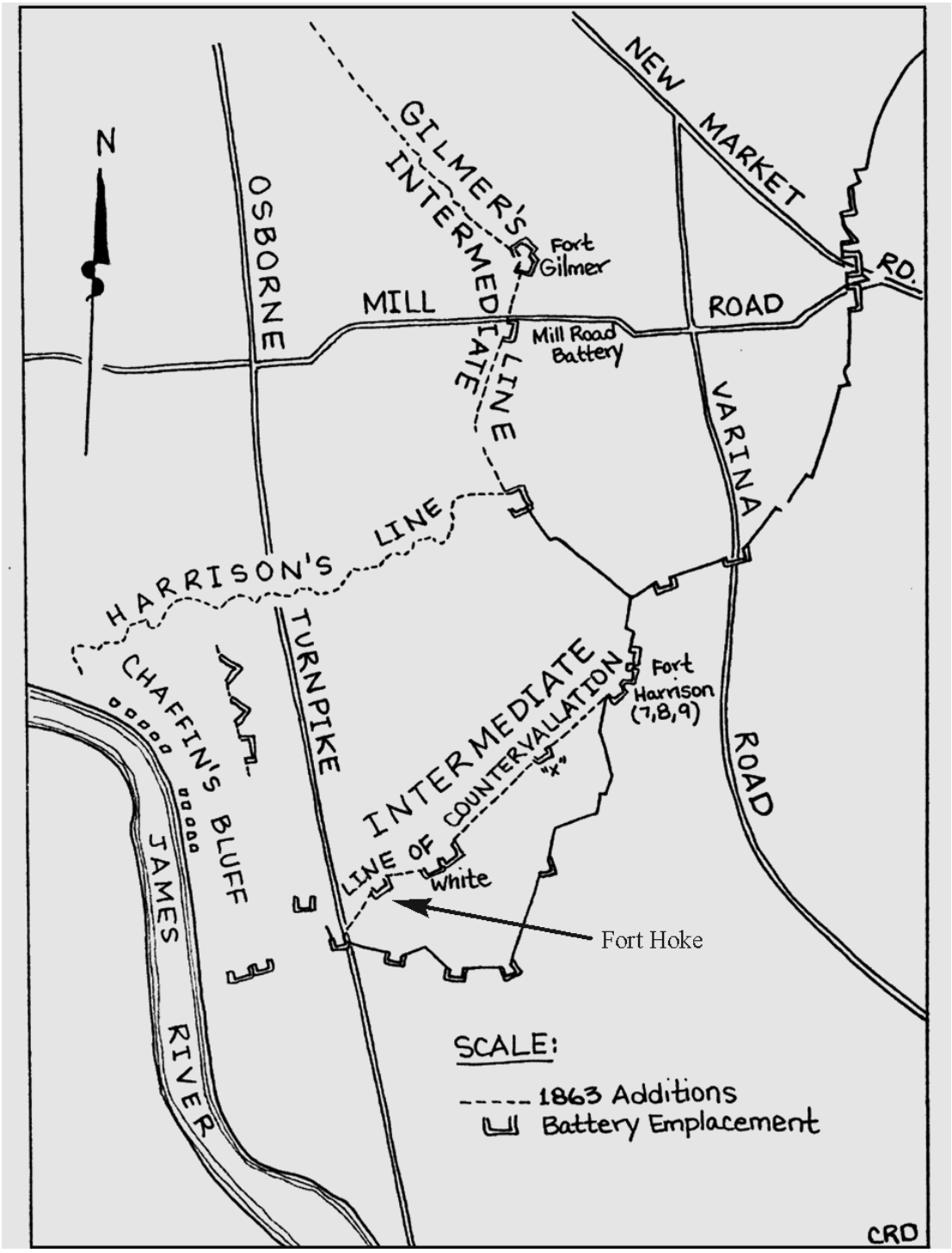

Figure 4: Location of Fort Hoke on the intermediate line of defenses in 1863 (Dickinson 1989).

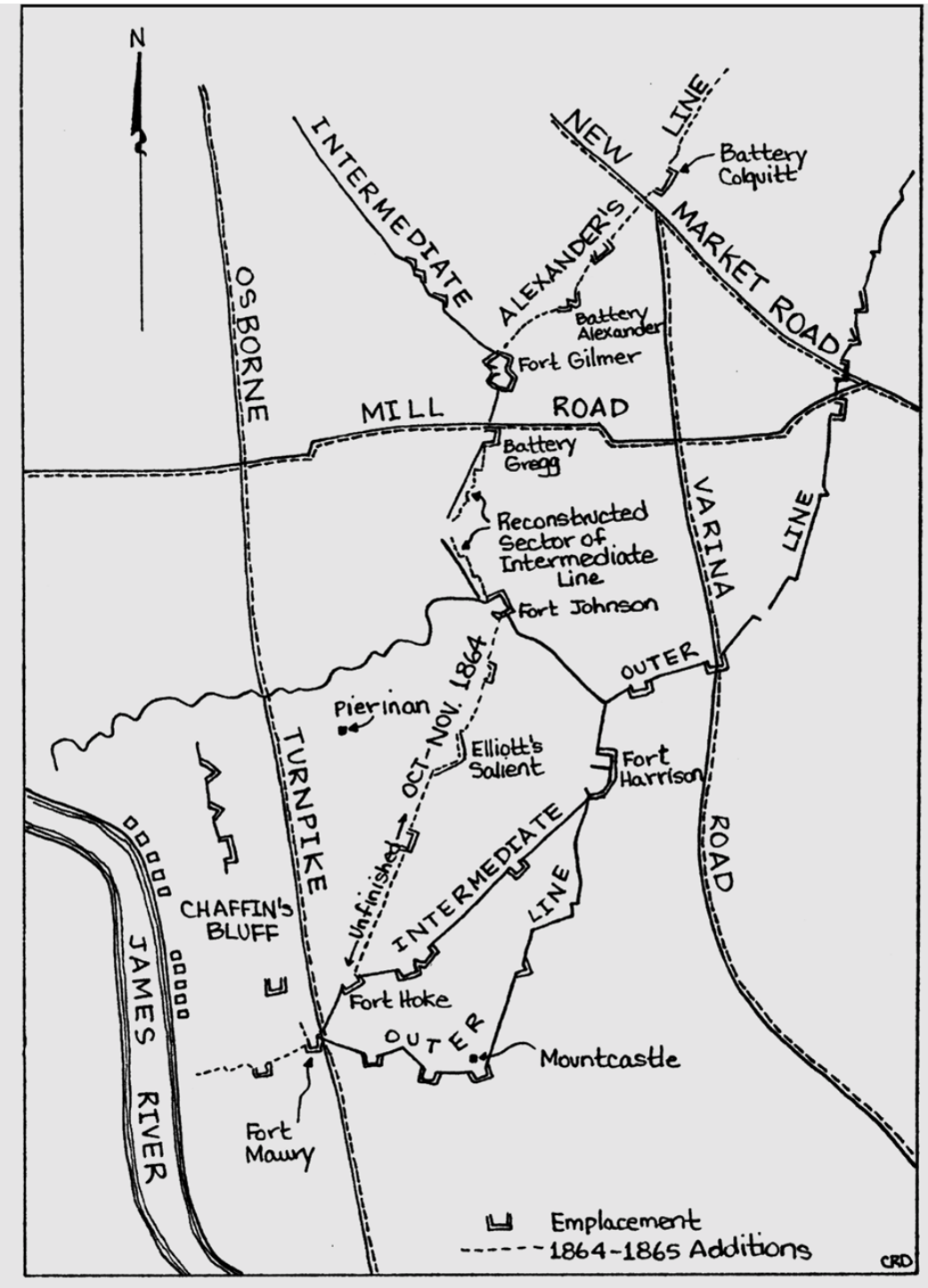

Figure 5: Location of Fort Hoke and associated defenses after the Battle of Chaffin's Farm (Dickinson 1989).

3 Method of Assessment

Investigations were conducted in accordance with the National Park Service's "Secretary's Standards for Archeology." Soil profiles were by photography and measured drawings. Tests were excavated to the bottom of the disturbance, with all soils passed through one-quarter inch hardware cloth. Soil colors were recorded using the Munsell soil color system. Recovered artifacts were placed in plastic bags marked by their provenience. These were cleaned and examined in reference to standard archeological procedures. Curatorial activities were conducted in accordance with the NPS's *Museum Handbook*. All materials including artifacts, field notes, and associated photographs are curated at Richmond National Battlefield Park.

All observations were documented in a field notebook, including a photographic log. Information recording techniques consisted of cleaning all four exposed profiles and floor area of the unauthorized excavations. These were recorded by photography and measured drawings of the north profiles after determining they were representative of the remaining three profiles; all were however cleaned and examined for impact to archeological resources. Approximately half of the disturbed soils were screened through one-quarter-inch mesh to determine if artifact deposits had been impacted by the unauthorized excavation

To determine the extent of disturbance from installation of the telephone cable, three segments of the trench were excavated and designated by their distance from the western terminus of the trench; a 3 by 2.3 foot segment designated Segment 1: 24' to 27' East, a 1 by 2 foot segment designated Segment 2: 64' to 65' East, and a 1 by 1.6 foot segment designated Segment 3: 140' to 141' East (Figures 6 and 7). The entire trench was not re-excavated because controlled excavation would have damaged a greater area of soil than had been damaged by the unauthorized excavation. This technique would provide a good estimate of the volume of damage without causing additional disturbance. A significant observation was that the vibrating plow method of installing cable, thought to create less soil disturbance than conventional ditching machines, actually disturbed an equivalent volume of soil.

Segment 1: 24' to 27' East measured three feet east/west and 2.3 feet north/south. Excavation revealed that the unauthorized excavation extended through two strata of soil. Stratum 1 was composed of dark grayish brown (10YR 4/2) loam to the depth of 0.4 feet; Stratum 2 was composed of dark yellowish brown (10YR 4/4) clay loam to the depth of excavation at 0.6 feet below surface. The installation trench damaged an area of soil averaging 0.6 feet wide.

Excavation of Segment 2: 64' to 65' East revealed that the telephone cable had been installed to the depth of 0.6 feet. Excavation revealed that the unauthorized excavation extended through two strata of soil. Stratum 1 was composed of dark grayish brown (10YR 4/2) loam to the depth of 0.4 feet; Stratum 2 was composed of dark yellowish brown (10YR 4/4) clay loam to the depth of excavation at 0.6 feet below surface. The installation trench damaged an area of soil averaging 0.6 feet wide.

Excavation of Segment 3: 140' to 141' East revealed that the telephone cable had been installed to the depth of 0.6 feet. Excavation revealed that the unauthorized excavation extended only into

Figure 6: Photographs of excavated segments of unauthorized excavation: Segment 1: 24 to 27' East (top), Segment 2: 64 to 65' East (lower left) and Segment 3: 40 to 41' East (lower right).

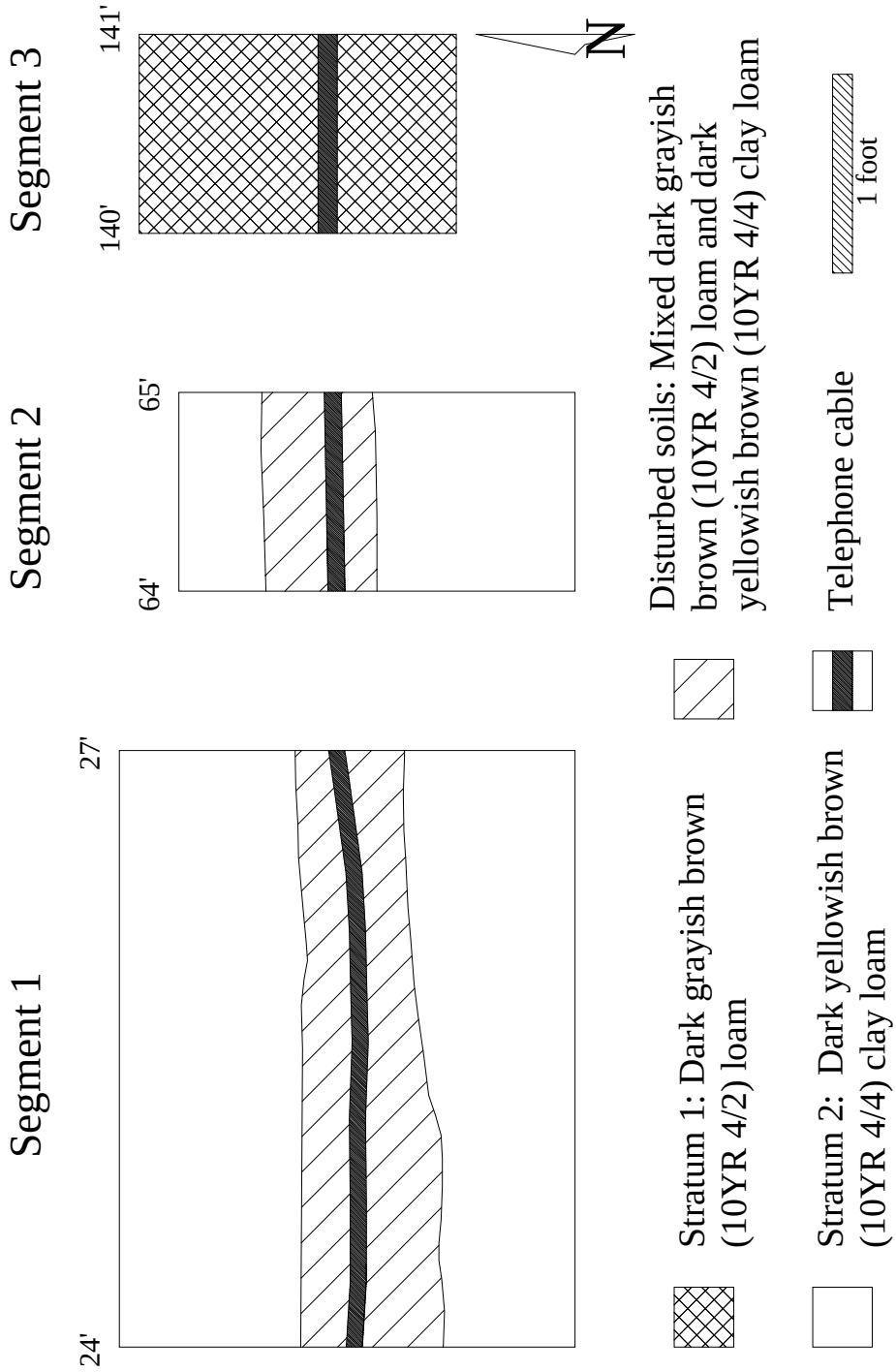

Figure 7: Measured drawing of excavated segments of unauthorized excavation.

Stratum 1, was composed of dark grayish brown (10YR 4/2) loam to the depth of 0.45 feet below surface where excavation was suspended. The installation trench damaged an estimated area of soil averaging 0.6 feet wide as it was impossible to determine its width because of the lack of soils from underlying strata.

The trench disturbed a volume of soil measuring 63.6 cubic feet (212.1 feet long by an average of 0.5 feet deep by 0.6 feet wide). No archeological features were identified within the areas of unauthorized excavation. One artifact, a single proximal cut nail fragment (dating from 1790 to the present), recovered from Segment 1 24-27' indicates the potential for the preservation of both features and artifact concentrations associated with the construction, maintenance, garrisoning, and defense of the adjacent earthwork. Resources of this type have the potential for addressing important archeological research questions.

4 Damage Assessment of Archeological Resources

Damage assessment to Federally owned or controlled archeological resources in violation of the Archeological Resources Protection Act of 1979, as amended (16 U.S.C. 470aa-470mm) can be obtained by determining three values: archeological value, commercial value, and the cost of restoration and repair to the resource. Guidelines for conducting such assessments to determine a monetary value are contained in 36 CFR 43.14. The criteria for determining these values and the values obtained are as follows:

4.1 Cost of Restoration and Repair

> ...the cost of restoration and repair...shall be the cost already incurred for emergency restoration and repair, which may include, but need not be limited to, the cost of the following: (1)reconstruction of the archeological resource; (2)stabilization of the archeological resource; (3)ground contour reconstruction and surface stabilization; (4)research necessary to carry out reconstruction or stabilization; (5)physical barriers or other protective devices, necessitated by the disturbance of the archeological resource, to protect it from further disturbance; (6)examination and analysis of the archeological resource including recording remaining archeological information, where necessitated by disturbance, in order to salvage remaining values which cannot be otherwise conserved; (7)reinterment of human remains...; and (8)preparation of reports relating to any of the above activities (7 CFR 43.14 (C)).

The cost of restoration and repair (Tables 1 and 2) was computed using the specific criteria (items 2, 6, and 8) contained in the guidelines quoted above. Table 1 represents the costs incurred for stabilization of the archeological resources by relocation of the telephone service through an existing culvert; this includes on-site consultation and monitoring of the subsequent excavations. Because the telephone cable had been installed using a vibrating plow device, no effort to stabilize the soil and re-seed the disturbed area was required. Table 2 represents the costs for assessing the damage from the unauthorized excavations including travel, report preparation, cataloging of the archival and artifact collection, and curation to the standards of 36CFR Part 79 (Curation of Federally Owned or Administered Archeological Collections) in perpetuity. This value totals $2404.43.

Table 1: Assessment and Evaluation Costs

Activity	Rate/Hour	Hours	Amount
Travel to Richmond, Virginia And return	$38.45	10	384.50
Mapping and Recording Damage			
Archeologist GS12/07	$38.45	8	$307.60
Report Preparation			
Archeologist GS12/07	$38.45	32	$1230.40
Supplies and Materials			
Film (1 roll Kodak Gold @ $4.60/roll)			$ 4.60
Film Processing (1 roll C-36 processing @ $13.00/roll)			$ 13.00
Subtotal			$17.60
Accession Collection			
Catalog specimens ($3.00 per object X 1)			$ 3.00
Materials			
Archival bags and boxes			$ 13.00
Curation of artifacts and records *1 box @ $250.00/box)			$250.00
Subtotal			$269.00
Travel Expenses			
Archeologist Cooper			$195.33
Total			**$2404.43**

4.2 Commercial Value

> ...commercial value of any archeological resource involved in a violation...shall be its fair market value. Where a violation has resulted in the damage of the archeological resource, the fair market value should be determined using the condition of the archeological resource prior to the violation, to the extent that its prior condition can be ascertained [7 CFR 43.14(b)].

The commercial value of the artifacts recovered from the unauthorized excavations is quite low as neither recovered artifact lacking detailed provenience information may be directly attributable to the Civil War. Commercial value was determined by the author. The total commercial value of the artifacts recovered as evidence was $1.00.

Table 2: Commercial Value of Artifacts Recovered as Evidence.

Number	Description	Count	Value
1	Cut nail (AD1790 - 1999)	1	$1.00
TOTAL			**$1.00**

4.3 Archeological Value

> This value shall be appraised in terms of the cost of retrieval of scientific information which would have been obtainable prior to the violation. These costs may include, but need not be limited to, the production of a research design, conducting field work, carrying out laboratory anlaysis, and preparing reports as would be necessary to realize the information potential [7 CFR 43.14(a)].

Archeological investigations conducted by the National Park Service is guided by the development and implementation of explicit research designs. These are formulated in consultation with the Commonwealth of Virginia's Department of Historic Resources under Section 110 of the Historic Preservation Act of 1966 (as amended) (Public Law 89-665; 80 STAT.915; 16 U.S.C. 470) [Section 110 Guidelines published in the Federal Register on February 17, 1988 (53 FR 4727-46)]. Archeological research questions, especially those associated with historic sites, are guided by the standards established in Bulletin 36 of the National Register of Historic Places. Bulletin 36 recognizes archeological significance in four broad categories, listed as Criterion A through D. The resources in the vicinity are significant under the following criteria: A) Sites A...associated with events that have made a significant contribution to the broad patterns of history; C) Sites A...that embody the distinctive characteristics of a type, period, or method of construction..." The Fort Harrison Unit (as has much of the National Park Service's archeological resources) has not been formally evaluated under Criterion D, sites "...that have yielded, or may be likely to yield, information important in prehistory or history." Richmond National Battlefield Park is conducting a systematic inventory of its archeological resources through the Cultural Resource Preservation Program at the Gaines' Mill and Malvern Hill Units. The Fort Harrison Unit will be the next unit evaluated for these resources due to the extent and complexity of the fortifications, and that this study will document their significance under Criterion D.

4.3.1 Previous Archeological Research

No programmatic archeological investigations in the Fort Harrison Unit of Richmond National Battlefield Park have been conducted; all activities have been in response to compliance and ARPA damage assessment needs. As a result, no exclusively archeological resources have been identified aside from the existing, above-ground earthworks. Archeological testing at Picnic Road near Fort Harrision for proposed improvements in 2000 did not identify any intact resources, nor did testing for an easement exchange in 1998 in along the earthworks between Fort Hoke and Fort Brady identify any intact archeological resources. An ARPA damage assessment of an unauthorized excavation near Fort Gilmer recovered two artifacts that could have dated from the Civil War activities, although no in-ground features were identified.

4.3.2 Research Design

Archeological investigations at historic sites are a vital adjunct to the historical record. Even well-documented events such as the American Civil War are recorded from the perspectives of the time and usually ignore or under-document events that are considered significant by today=s standards of scholarship. This is especially true of the large population of participants who were viewed as simply implementing the will or direction of their political or military leaders. This is doubly true of the Confederate armies that both lacked the resources for complete documentation, as well as the loss of relevant records after the fall of their government. The voices of the diverse populations that participated in the Civil War, on both sides, have been permanently muted by the passage of time. Whispers of those voices remain in the material culture in their encampments, battlefields, and ruins of their fortifications which are accessible through archeological science.

The chronology of the Civil War is thoroughly documented, evidenced by both the abundant literature arising immediately after the war as well as that from the public's current fascination with those events. The material culture is equally well documented, evidenced by both its origin in industrial production and tested in today's lucrative antiquities market where Civil War artifacts reach unprecedented values. Implementation of an archeological investigation designed to address the research potential of the site for the area disturbed by the unauthorized excavation would require the following:

4.3.2 Research Design

Specific research questions applicable to battlefields that archeology may address are:
Were the armies equipped with the weapons and accouterments as documented?
How were these weapons deployed during battle? In what quantities?
How did these weapons, especially novel ones, perform at first? On subsequent uses?
Which specific units were employed during the engagement?
Does the distribution of features and artifacts reflect the historical documentation of the occupatiuon and battles?
What was the fate of the casualties? Were they buried in place? Was there subsequent removal? Is there evidence of field hospitals and what was their level of care there?

Specific research questions applicable to encampments that archeology may address are:

- How did the troops occupy themselves between battles? How did this change during the extended occupancy of the site?
- What undocumented components of the encampment existed (mess halls, latrines, magazines)? How were they spatially organized?
- What types of foods were supplied for each army? What was the total level of supply?
- How were supplies consumed? In common messes? At individual posts?
- What level of contact did the residents have with the civilian population?

Most, if not all of these questions may be addressed in the area containing the unauthorized excavation. The unauthorized excavation occurred on the Confederate portion of the Fort

Harrison Unit earthworks. As outlined above in "Area of Damage" the location may have been both an encampment area and site of significant battle activities in the construction of the defensive works in 1862-63 and in the Overland Campaign of 1864. Moreover, the earthworks were constructed and garrisoned by 1862, potentially leaving an archeological record encompassing the entire duration of the Civil War and adding an extended timeline to address all of these questions. The encampment location may be also include materials from the slaves who constructed part of the works.

Many of these questions have been successfully addressed at the Confederate Picket Line at Petersburg National Battlefield (Blades 1981). The comparison of similar resources at the northern end of the Confederate lines would dramatically increase the utility of those results.

4.3.3 Implementing the Research Design

The computed volume of soil resulting from the unauthorized excavation amounts to approximately 63.6 cubic feet of soil. To archeologically excavate the equivalent volume of soil would require the excavation of an eight by eight foot archeological test (or approximately two and one-half five foot square excavation units. Units of this size are regularly used to recover contextural information and statistically significant artifact samples that could address the research design posed above. Excavation units of this size are expected to contain complex archeological features such as intersecting hearths, refuse pits, and defensive features, all of which require meticulous excavation by hand. It is precisely this type of study that is developed for an Archeological Identification Study. The archeological value described below is based on excavation of a controlled excavation unit and the costs associated for planning, curation, and reporting (Table 4). The costs below do not include specialized studies if specific categories of information are discovered, such as zooarchological studies, palynological studies, or forensic studies if human burials are identified.

The research design must be supported by a geophysical prospecting survey. These have been conducted on all significant National Park Service Civil War archeological sites prior to excavation for the past decade. They serve to identify those areas which will allow for retrieval of information relevant to the research design, so that resources are not disturbed in the hunt for specific types of features. They consequently reduce the cost of excavation.

The total estimated archeological value for the disturbance of 66.4 cubic feet of soil is $13,329.04.

Table 4: Estimated Archeological Value

Activity	Rate/Hour	Hours	Amount
Research Design			
Historical Background Research			
Historian (GS-13)	$37.13	8	$297.04
Design Archeological Work			
Archeologist (GS-12)	$31.47	12	$377.64
Word Processing (GS-5)	$14.32	4	$57.28
Map Production			
Scientific Illustrator (GS-7)	$17.74	12	$212.88
Subtotal			$944.84
Archeological Field Work			
Establish Survey Control			
Archeologist (GS-11)	$26.26	4	$105.04
Archeology Technician (GS-5)	$14.32	4	$57.28
Geophysical Prospecting			
Magnetic Survey			
Archeologist (GS-11)	$26.26	8	$210.08
Archeology Technician (GS-5)	$14.32	8	$114.56
Resistivity Survey			
Archeologist (GS-11)	$26.26	8	$210.08
Archeology Technician (GS-5)	$14.32	8	$114.56
Controlled Excavation			
Archeologist (GS-11)	$26.26	80	$2100.80
Archeology Technician (GS-5)	$14.32	80	$1145.60
Back-fill and Restore Excavations			
Archeology Technician (GS-5)	$14.32	4	$57.28
Review and Check Field Data			
Archeologist (GS-11)	$26.26	12	$315.12
Park Coordination and Administration			
Archeologist (GS-11)	$26.26	4	$105.04
Film and Processing	$13.00/roll	4	$52.00
Subtotal			$4587.44
Travel			
Lodging and per diem	$80.00/day	24	$1920.00
Laboratory Processing			
Artifact cleaning			
Archeology Technician (GS-5)	$14.32	20	$286.40
Analyze artifacts			
Archeologist (GS-11)	$26.26	32	$840.32
Archeology Technician (GS-5)	$14.32	32	$458.24
Subtotal			$1584.96

Activity	Rate/Hour	Hours	Amount
Curation Activities			
ANCS Cataloging			
Archeologist (GS-11)	$26.26	24	$630.24
Archeology Technician (GS-5)	$14.32	40	$572.80
Bags, forms, etc.			$75.00
Curation (2 boxes)	$250.00		$500.00
Subtotal			$1778.04
Report Preparation and Production			
Write report			
Archeologist (GS-11)	$26.26	40	$1050.40
Prepare figures, maps			
Scientific Illustrator (GS-07)	$17.74	40	$709.60
Word Processing			
Secretary (GS-05)	$14.32	24	$343.68
Copy editing			
Writer/editor (GS-11)	$26.26	8	$210.08
Collating, printing, and binding			$200.00
Subtotal			$2513.76
TOTAL			**$13,329.04**

5 References Cited

Dickinson, Clifford R.
1989 Union and Confederate engineering operations at Chaffin's Bluff/Chaffin's Farm, June 1862 - April 3, 1865. Manuscript on file, Richmond National Battlefield Park. Richmond, Virginia.